DAIKIN

technical data

air conditioning systems

Control box

R-410A

Split Sky Air

Split - Sky Air

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

Daikin units comply with the European regulations that guarantee the safety of the product.

Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil units (FC); the certified data of certified models are listed in the Eurovent Directory.

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1 Features

- The ERX system provides optimized air conditions such as fresh air and humidity control etc and can be used in small warehouses, showrooms and offices.
- Wide range of Daikin units offers maximum application potential plus flexible control options.
- Both options are designed for indoor and outdoor installation and can be wall mounted.
- Control box and expansion valve kit are required for each combination plus an air handling unit.

2 Specifications

2-1 TECHNICAL SPECIFICATIONS				EKEXDCBAV3	EKEXFCBAV3
Casing	Colour			White grey	
	Material			Resin	
Dimensions	Unit	Height	mm	132	132
		Width	mm	400	400
		Depth	mm	200	200
	Packing	Height	mm	215	215
		Width	mm	495	495
		Depth	mm	310	310
Weight	Unit		kg	3.5	3.8
	Packed Unit		kg	4.5	4.8
Packing	Material			Carton	
	Weight		kg	0.38	0.38
	Material			EPS	
	Weight		kg	0.24	0.24
	Material			Plastic	
	Weight		kg	0.09	0.09
Operation Range	Cooling	Min	°CDB	-5.0	-5.0
		Max	°CDB	46.0	46.0
Standard Accessories	Item			Thermistor (R1T)	
	Quantity			1	
	Item			Thermistor (R2T/R3T)	
	Quantity			2	2
	Item			Insulation Sheet	
	Quantity			2	2
	Item			Rubber sheet	
	Quantity			2	2
	Item			Wire to wire splice	
	Quantity			6	4
	Item			Installation and operation manual	
	Quantity			1	1
	Item			Screw nut	
	Quantity			8	6
	Item			Tie-wraps	
	Quantity			6	6
	Item			Capacity setting adapter	
	Quantity			7	5
	Item			Stopper (closing up)	
	Quantity				2

2 Specifications

2-2 ELECTRICAL SPECIFICATIONS				EKEXDCBAV3	EKEXFCBAV3
Power Supply	Name			V3	
	Phase			1	1
	Frequency		Hz	50	50
	Voltage		V	230	230
	Voltage range	Minimum	V	-10%	
		Maximum	V	+10%	
Wiring connections	For Power Supply	Quantity		3	3
		Remark		Earth wire included	
	For connection with indoor	Quantity		2	2
		Remark		F1-F2	
	For remote control	Quantity		2	2
		Remark		P1,P2	P1,P2 (for service)
	For expansion valve kit	Quantity		6	6
		Remark		Y1˜Y6	
	Thermistors liquid pipe	Quantity		2	2
		Remark		R1,R2	
	Thermistors gas pipe	Quantity		2	2
		Remark		R3,R4	
	Thermistor air	Quantity		2	
		Remark		R5,R6	
	ON/OFF	Remark		T1,T2	
	Error signal	Quantity			2
		Remark			C1,C2
	Operation signal	Quantity			2
		Remark			C3,C4
	Capacity step	Quantity			2
		Remark			C5,C6
Power Supply Intake				Bottom	

3 Options

EKEX

N°	Item	EKEXFCB	EKEXDCB
1	Remote controller (Wired type)	BRC1D527 (*)	BRC1D527
2	Wiring adaptor for electrical appendices	—	KRP4A516
3	Remote sensor	—	KRC501-1
4	Valve kits	EKEXV63,80,100,125,140,200,250	

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(*) Not required for operation, only useful accessory tool for service and installation.

Caution for options:

- Do not connect the system to DIII-NET devices (intelligent controller, intelligent manager, DMS-IF, bacnet gateway...) This could result in malfunction or breakdown of the total system.
- Do not use this system in combination with a field supplied air handling unit.
  Do not connect this system to other indoor units.
- See combination table for application of valve kits

4 Capacity tables

4 - 1 Combination table

		Control box		Valve kit						
Class	Outdoor	EKEXDCBAV3	EKEXFCBAV3	EKEXV63	EKEXV80	EKEXV100	EKEXV125	EKEXV140	EKEXV200	EKEXV250
100	ERX100A8V3B	P	P	P	P	P	P	-	-	-
125	ERX125A8V3B	P	P	P	P	P	P	P	-	-
140	ERX140A8V3B	P	P	-	P	P	P	P	-	-
125	ERX125A7W1B	-	-	P	P	P	P	P	-	-
200	ERX200A7W1B	P	P	-	-	P	P	P	P	P
250	ERX250A7W1B	P	P	-	-	-	P	P	P	P

P: Pair: Combination depending on AHU coil volume (details see manual and capacity table)

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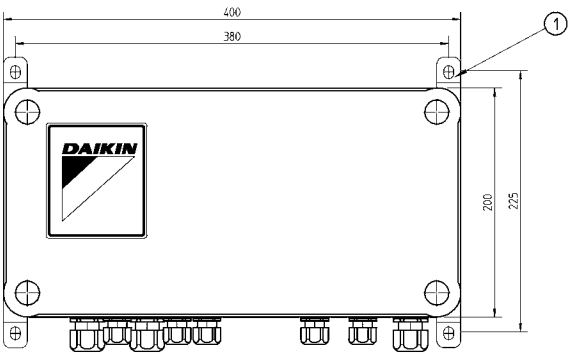
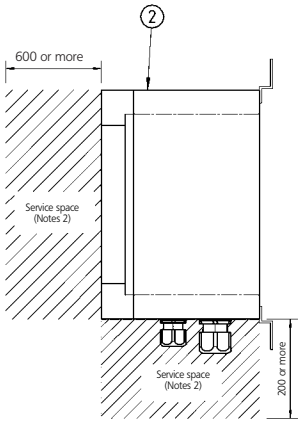
5 Dimensional drawing & centre of gravity

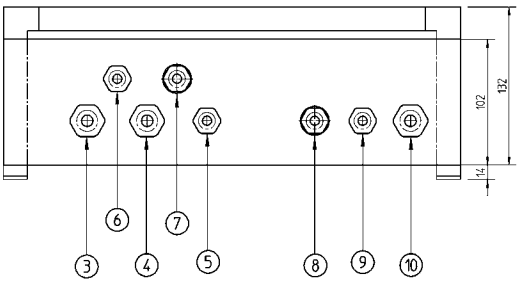
5 - 1 Dimensional drawing

EKEXDCBA





① 4 holes to fix control box
② Control box lid
③ Screw nut for power supply cable
④ Screw nut for expansion valve cable
⑤ Screw nut for thermistor cable (liquid) R2T
⑥ Screw nut for thermistor cable (gas) R3T
⑦ Screw nut for communication cable to outdoor unit
⑧ Screw nut for thermistor cable (air) R1T
⑨ Screw nut for remote controller
⑩ Screw nut for connection cable to controller



Notes:

1 Installation:
Make sure that the control box is installed horizontal, screw nuts position downwards.
The option boxes (expansion valve and electrical control box) can be installed inside and outside.
Do not install the option boxes in or on the outdoor unit.
Do not put the option boxes in direct sunlight. Direct sunlight will increase the temperature inside the option boxes and may reduce its lifetime and influence its operation.
Choose a flat and strong mounting surface.

2 Service space:
Keep enough free for future maintenance.

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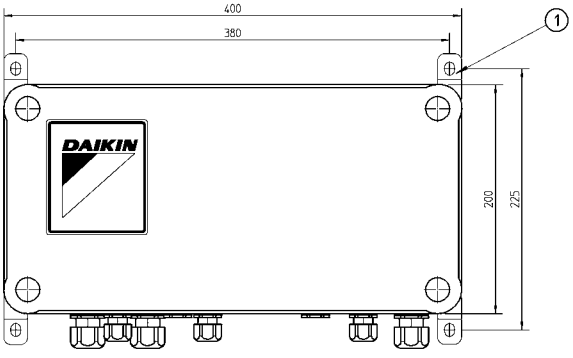
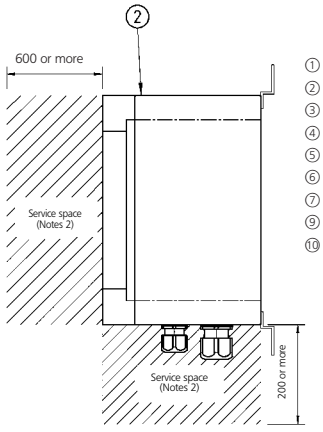
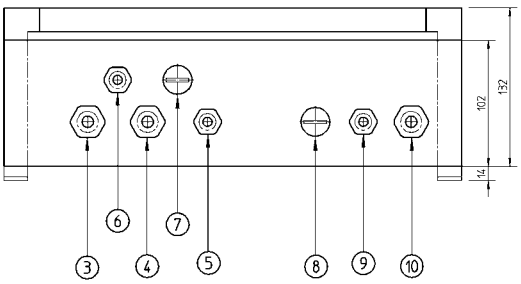
EKEXFCBA





① 4 holes to fix control box
② Control box lid
③ Screw nut for power supply cable
④ Screw nut for expansion valve cable
⑤ Screw nut for thermistor cable (liquid) R2T
⑥ Screw nut for thermistor cable (gas) R3T
⑦ ⑧ Stopper (closing cup)
⑨ Screw nut for communication cable to outdoor unit
⑩ Screw nut for connection cable to controller



Notes:

1 Installation:
Make sure that the control box is installed horizontal, screw nuts position downwards.
The option boxes (expansion valve and electrical control box) can be installed inside and outside.
Do not install the option boxes in or on the outdoor unit.
Do not put the option boxes in direct sunlight. Direct sunlight will increase the temperature inside the option boxes and may reduce its lifetime and influence its operation.
Choose a flat and strong mounting surface.

2 Service space:
Keep enough free for future maintenance.

3TW27154-1

6 Wiring diagram

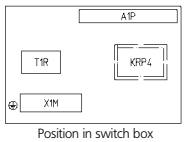
6 - 1 Wiring diagram

EKEXDCBA

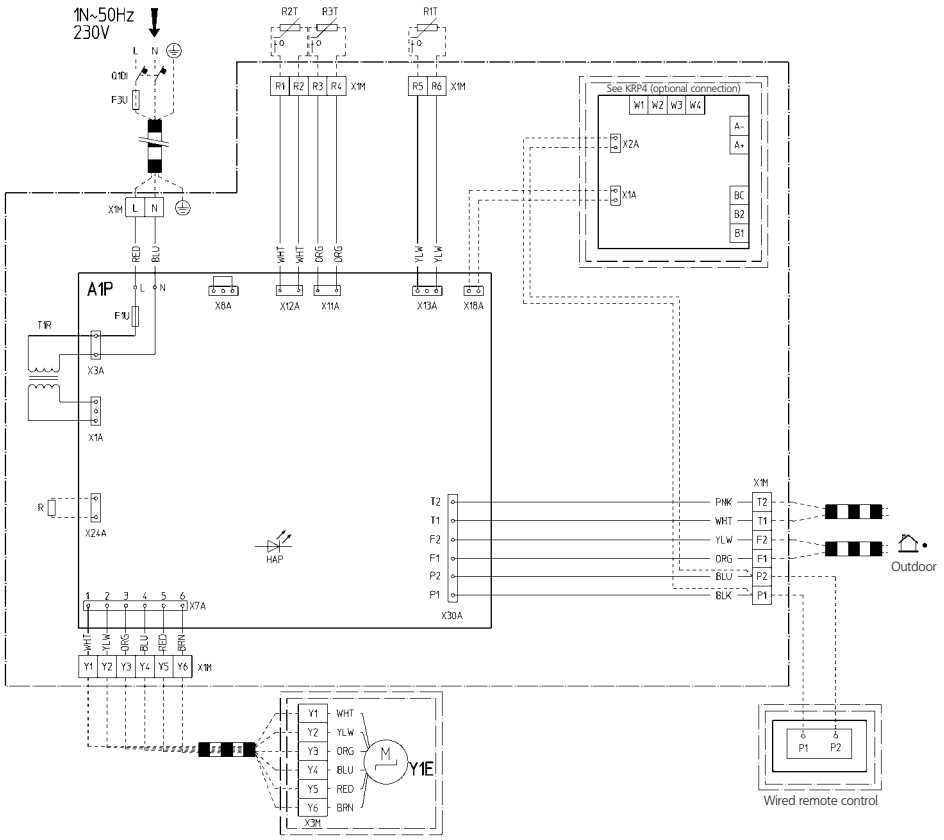
A1P : Printed circuit board
F1U : Fuse (250V, F5A) (A1P)
F3U : Field fuse
HAP : Light emitting diode (service monitor green)
Q1DI : Earth leakage breaker
R1T : Thermistor (Air)
R2T : Thermistor (Liquid)
R3T : Thermistor (Gas)
T1R : Transformer (220V/21.8V)
X1M : Terminal block
X3M : Terminal block
Y1E : Electronic expansion valve
X1M-R1/R2 : Thermistor Liquid
X1M-R3/R4 : Thermistor Gas
X1M-R5/R6 : Thermistor Air
X1M-Y1–6 : Expansion valve
X2M-P1/P2 : Communication remote controller
X2M-T1/T2 : Input: ON/OFF
X2M-F1/F2 : Communication outdoor

1 Use copper conductors only.
2 BLK: Black / WHT: White / RED: Red / BLU: Blue / BRN: Brown / GRY: Grey / GRN: Green / PINK: Pink / YLW: Yellow

L : Live
N : Neutral
: Connector
: Wire clamp
: Protective earth (Screw)
: Seperate component
: Optional accessory
: Field wiring



Position in switch box



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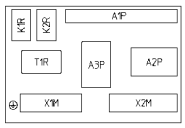
EKEXFCBA

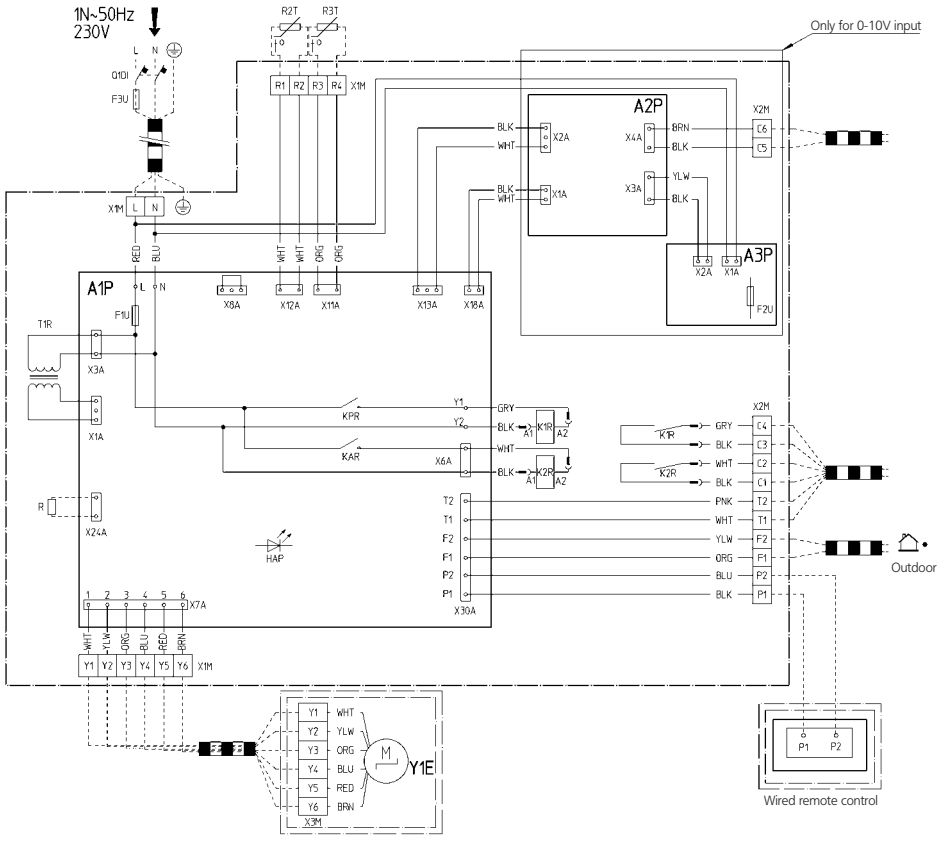
A1P : Printed circuit board
A2P : Printed circuit board (for voltage conversion)
A3P : Printed circuit board (Power supply)
F1U : Fuse (250V, F5A) (A1P)
F2U : Fuse (250V, T1A) (A3P)
F3U : Field fuse
HAP : Light emitting diode (service monitor green)
K1R : Magnetic relay (Operation / Compressor ON/OFF)
K2R : Magnetic relay (error status)
KAR, KPR : Magnetic relay
Q1DI : Earth leakage breaker
R2T : Thermistor (Liquid)
R3T : Thermistor (Gas)
T1R : Transformer (220V/21.8V)
X1M : Terminal block
X2M : Terminal block
X3M : Terminal block
Y1E : Electronic expansion valve
X1M-R1/R2 : Thermistor Liquid
X1M-R3/R4 : Thermistor Gas
X1M-Y1–6 : Expansion valve
X2M-P1/P2 : Communication remote controller
X2M-C1/C2 : Output: error status
X2M-C3/C4 : Output: Operation / Compressor ON/OFF
X2M-T1/T2 : Input: ON/OFF
X2M-F1/F2 : Communication outdoor
X2M-C5/C6 : Input: 0-10V DC capacity control

1 Use copper conductors only.
2 BLK: Black / WHT: White / RED: Red / BLU: Blue / BRN: Brown / GRY: Grey / GRN: Green / PINK: Pink / YLW: Yellow

L : Live
N : Neutral
: Connector
: Wire clamp
: Protective earth (Screw)
: Seperate component
: Optional accessory
: Field wiring



Position in switch box



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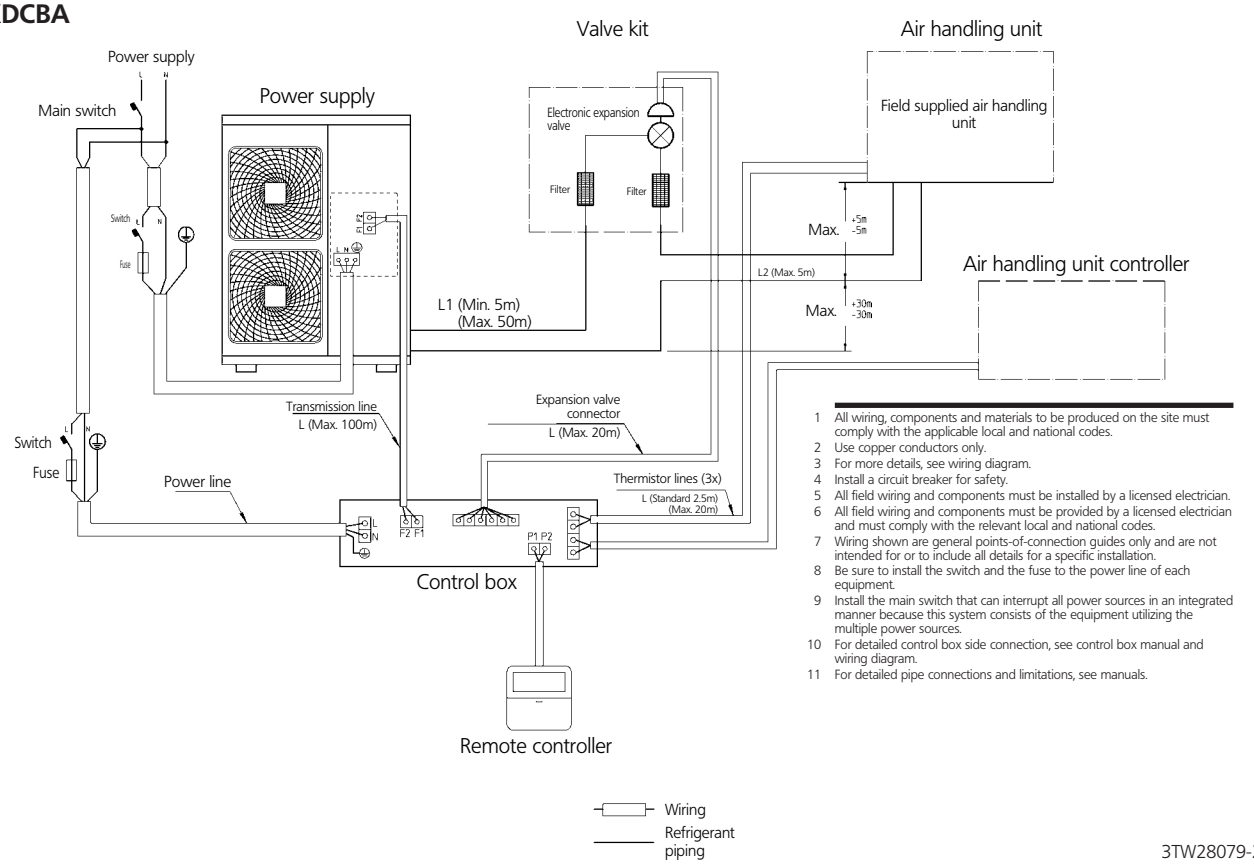
6 Wiring diagram

6 - 2 External connection diagram

EKEXDCBA



1 All wiring, components and materials to be produced on the site must comply with the applicable local and national codes.
2 Use copper conductors only.
3 For more details, see wiring diagram.
4 Install a circuit breaker for safety.
5 All field wiring and components must be installed by a licensed electrician.
6 All field wiring and components must be provided by a licensed electrician and must comply with the relevant local and national codes.
7 Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8 Be sure to install the switch and the fuse to the power line of each equipment.
9 Install the main switch that can interrupt all power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10 For detailed control box side connection, see control box manual and wiring diagram.
11 For detailed pipe connections and limitations, see manuals.

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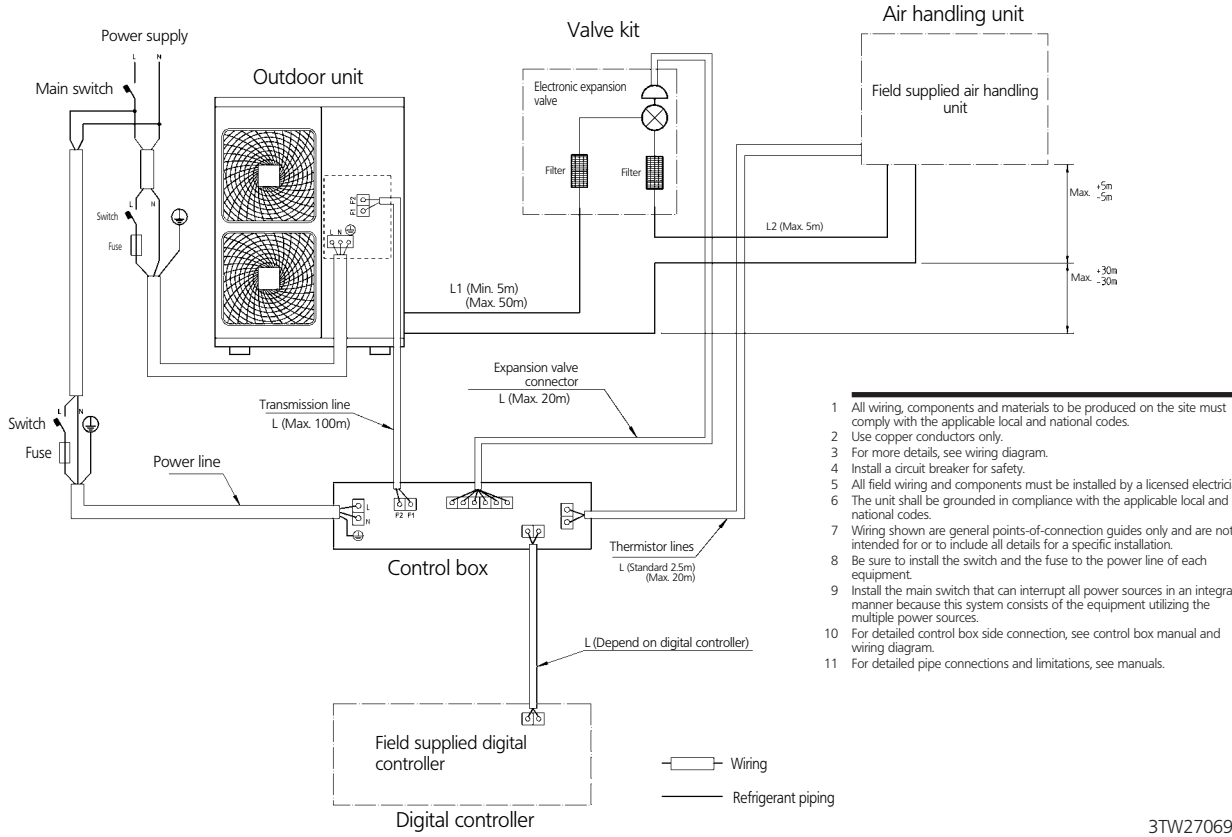
EKEXFCBA



1 All wiring, components and materials to be produced on the site must comply with the applicable local and national codes.
2 Use copper conductors only.
3 For more details, see wiring diagram.
4 Install a circuit breaker for safety.
5 All field wiring and components must be installed by a licensed electrician.
6 The unit shall be grounded in compliance with the applicable local and national codes.
7 Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8 Be sure to install the switch and the fuse to the power line of each equipment.
9 Install the main switch that can interrupt all power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10 For detailed control box side connection, see control box manual and wiring diagram.
11 For detailed pipe connections and limitations, see manuals.

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